

FIG. 2

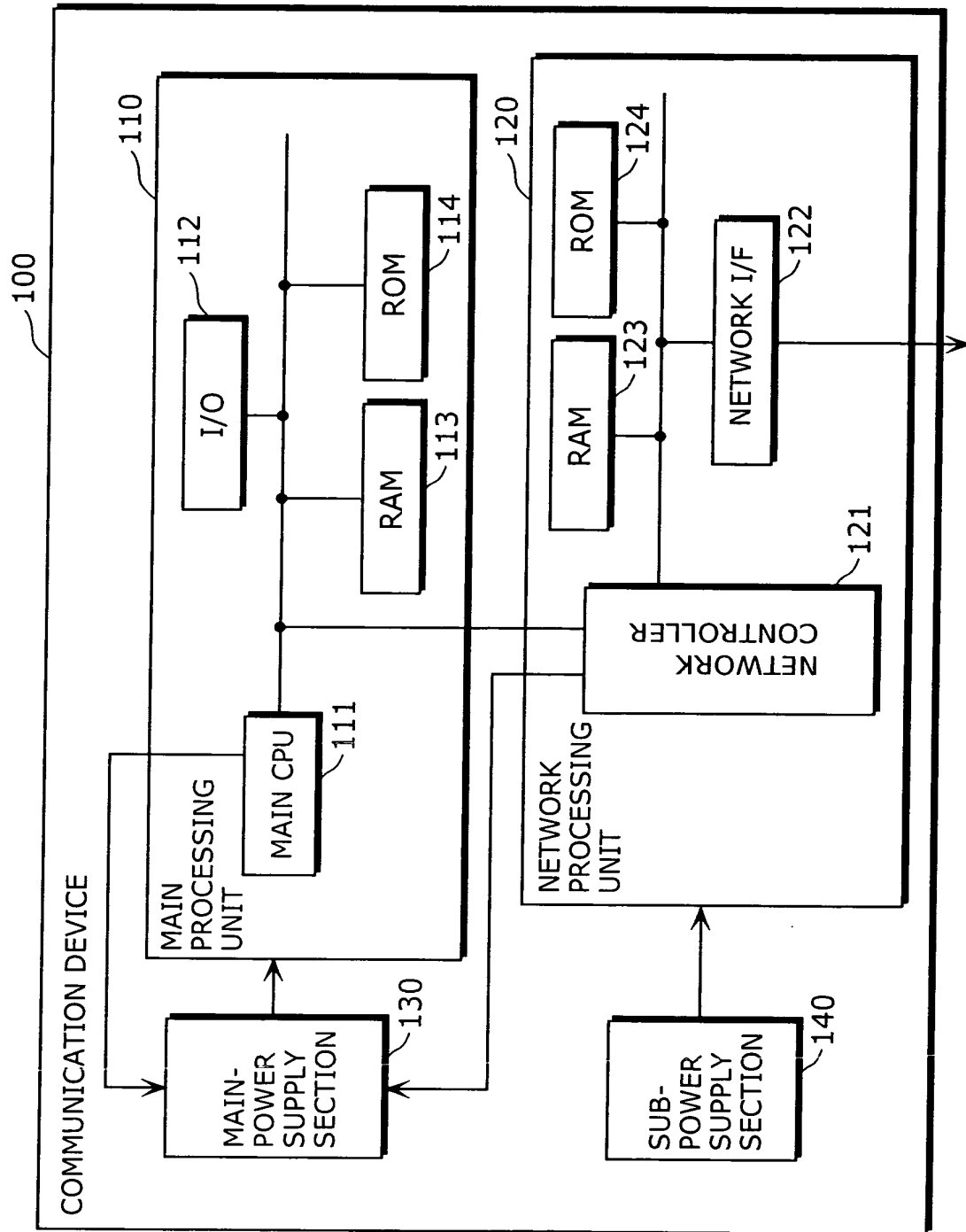


FIG. 3

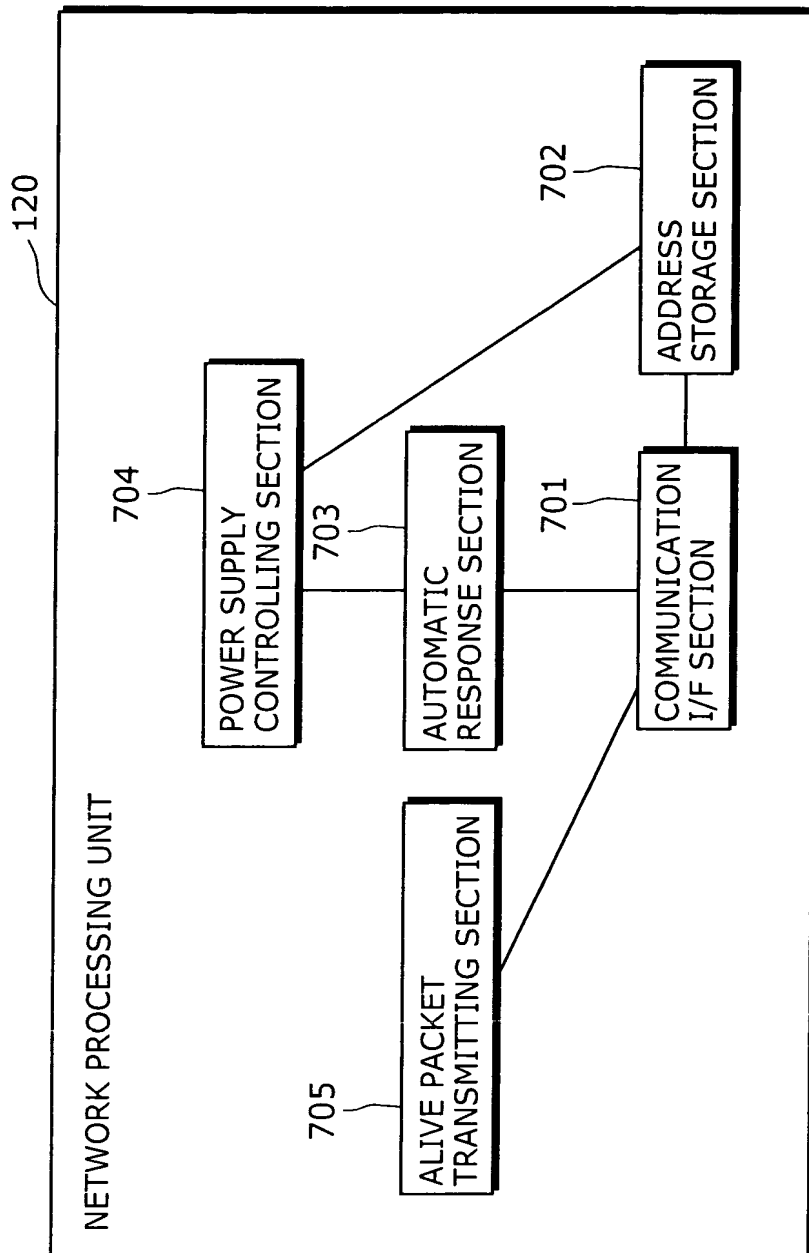


FIG. 4

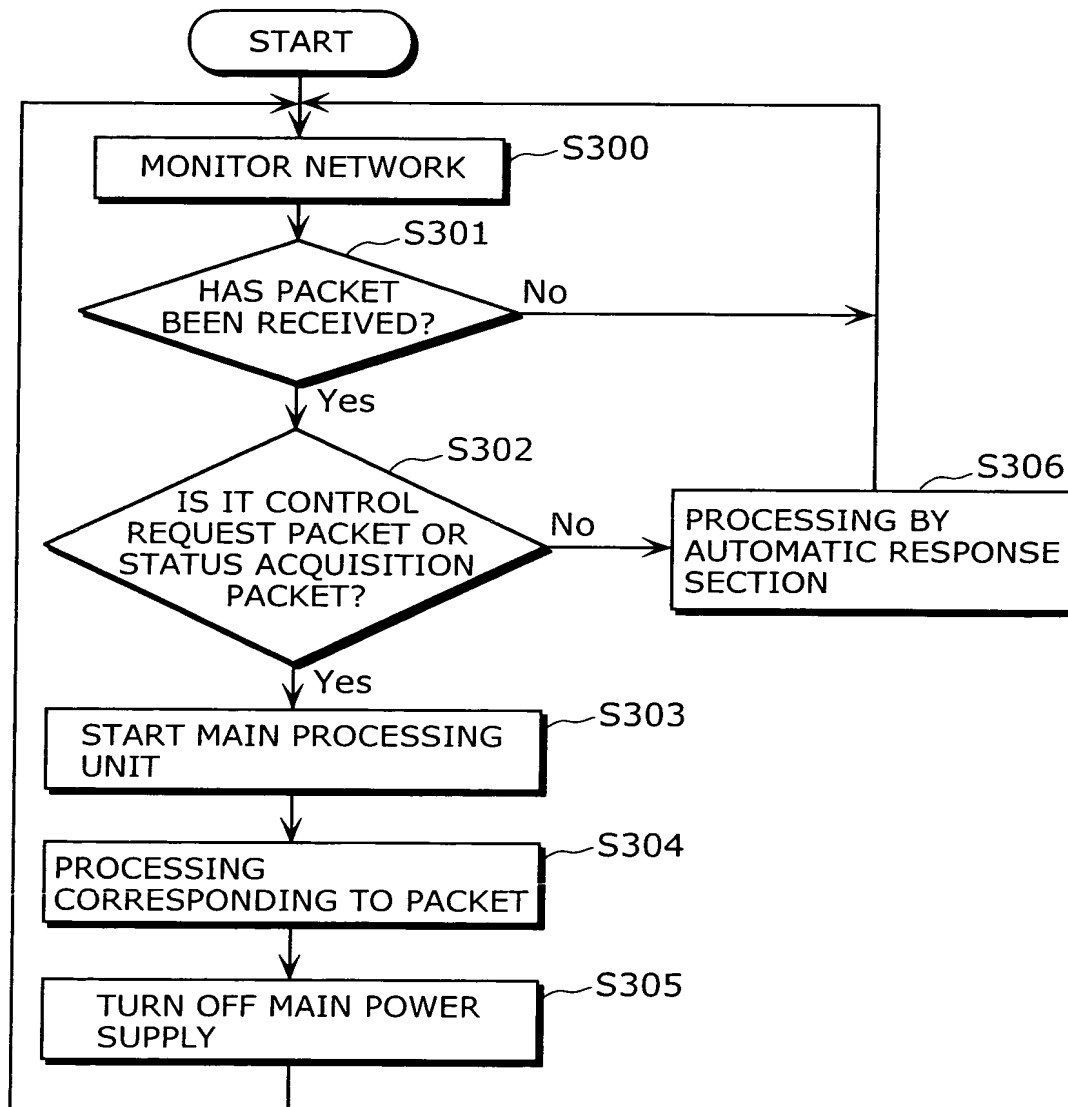


FIG. 5

REQUEST PACKET	RESPONSE PACKET
<p>NOTIFY* HTTP/1.1 HOST: 239.255.255.250:1900 CACHE-CONTROL: max-age = NUMBER OF SECONDS UNTIL COMMUNICATION IS COMPLETED LOCATION: URL TO UPnP DESCRIPTION OF ROOT DEVICE NT: SEARCH TARGET NTS: ssdp:alive SERVER: OS NAME/OS VERSION UPnP/1.0 PRODUCT NAME/PRODUCT VERSION USN: NOTICE UUID</p>	<p>NONE</p>
<p>DISCOVERY REQUEST PACKET</p> <p>M-SEARCH * HTTP/1.1 Host: 239.255.255.250:1900 MAN: "ssdp:discover" MX: RESPONSE DELAY TIME (SEC.) ST: SEARCH TARGET</p>	<p>DISCOVERY RESPONSE PACKET</p> <p>HTTP/1.1 200 OK CACHE-CONTROL: max-age = NUMBER OF SECONDS UNTIL COMMUNICATION IS COMPLETED DATE: DATE AND TIME OF CREATION OF RESPONSE EXT: LOCATION: URL TO UPnP DESCRIPTION OF ROOT DEVICE SERVER: OS NAME/OS VERSION UPnP/1.0 PRODUCT NAME /PRODUCT VERSION ST: SEARCH TARGET USN: NOTICE UUID</p>
<p>CONTROL RESPONSE PACKET</p> <p>POST path of control URL HTTP/1.1 HOST: host of control URL: port of control URL CONTENT-TYPE: text/xml; charset="utf-8" SOAPACTION: "urn:schemas-upnp-org:service:serviceType:v#actionName" <s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/" s:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <s:Body> <u:actionName xmlns:u="urn:schemas-upnp-org:service:serviceType:v"> <argumentName>in arg value</argumentName> other in args and their values (if any) go here </u:actionName> </s:Body> </s:Envelope></p>	<p>CONTROL RESPONSE PACKET</p> <p>HTTP/1.1 200 OK CONTENT-TYPE: text/xml; charset="utf-8"</p> <p><s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/" s:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <s:Body> <u:actionNameResponse xmlns:u="urn:schemas-upnp-org:service:serviceType:v"> <argumentName>out arg value</argumentName> other out args and their values (if any) go here </u:actionNameResponse> </s:Body> </s:Envelope></p>

FIG. 6

REQUEST PACKET	RESPONSE PACKET
<p>ALIVE PACKET</p> <p>NOTIFY* HTTP/1.1 HOST: 239.255.255.250:1900 CACHE-CONTROL: max-age=60 LOCATION: http://192.168.0.1:80/upnp/service/des_ppp.xml NT: urn:schemas-upnp-org:service:PlayCD:1 NTS: ssdp:alive SERVER: NT/5.0 UPnP/1.0 USN: uuid:upnp-CDPlayer-1_0-0002B3267A4C::urn:schemas-upnp-org:service:PlayCD:1</p>	<p>NONE</p>
<p>DISCOVERY REQUEST PACKET</p> <p>M-SEARCH * HTTP/1.1 MX: 3 HOST: 239.255.255.250:1900 MAN: "ssdp:discover" ST: urn:schemas-upnp-org:service:PlayCD:1</p>	<p>DISCOVERY RESPONSE PACKET</p> <p>HTTP/1.1 200 OK CACHE-CONTROL: max-age = 60 LOCATION: http://192.168.0.1:80/upnp/service/des_ppp.xml SERVER: NT/5.0 UPnP/1.0 ST: urn:schemas-upnp-org:service:PlayCD:1 EXT: USN: uuid:upnp-CDPlayer-1_0-0002B3267A4C::urn:schemas-upnp-org:service:PlayCD:1</p>
<p>CONTROL RESPONSE PACKET</p> <p>POST /upnp/service/PlayCDHTTP/1.1 HOST: 192.168.0.1:80 CONTENT-LENGTH: bytes in body ←SIZE OF BODY IS ENTERED HERE. CONTENT-TYPE: text/xml; charset="utf-8" SOAPACTION: urn:schemas-upnp-org:service:PlayCD:1#Play <?xml version="1.0"?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <SOAP-ENV:Body> <m:Playxmlns:m="urn:schemas-upnp-org:service:PlayCD:1"></m:Play> </SOAP-ENV:Body> </SOAP-ENV:Envelope></p>	<p>CONTROL RESPONSE PACKET</p> <p>HTTP/1.1 200 OK CONTENT-LENGTH: bytes in body ←SIZE OF BODY IS ENTERED HERE. CONTENT-TYPE: text/xml; charset="utf-8" DATE: when response was generated EXT: SERVER: OS/version UPnP/1.0 product/version <?xml version="1.0"?> <SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/" SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <SOAP-ENV:Body> <m:PlayResponse xmlns:m="urn:schemas-upnp-org:service:PlayCD:1"> </m:PlayResponse> </SOAP-ENV:Body> </SOAP-ENV:Envelope></p>

FIG. 7

REQUEST PACKET	RESPONSE PACKET
<p>STATUS ACQUISITION REQUEST PACKET</p> <p>POST path of control URLHTTP/1.1 HOST: host of control URL: portof control URL CONTENT-LENGTH: bytes in body CONTENT-TYPE: text/xml; charset="utf-8" SOAPACTION: "urn:schemas-upnp-org:control-1-0#QueryStateVariable"</p> <pre> <s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/" s:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <s:Body> <u:QueryStateVariablexmlns:u="urn:schemas-upnp-org:control-1-0"> <u:varName>variableName</u:varName> </u:QueryStateVariable> </s:Body> </s:Envelope> </pre>	<p>STATUS ACQUISITION REQUEST PACKET</p> <p>HTTP/1.1 200 OK CONTENT-LENGTH: bytes in body CONTENT-TYPE: text/xml; charset="utf-8" DATE: when response was generated EXT: SERVER: OS/versionUPnP/1.0 product/version</p> <pre> <s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/" s:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"> <s:Body> <u:QueryStateVariableResponsexmlns:u="urn:schemas-upnp-org:control-1-0"> <return>variable value</return> </u:QueryStateVariableResponse> </s:Body> </s:Envelope> </pre>

FIG. 8

